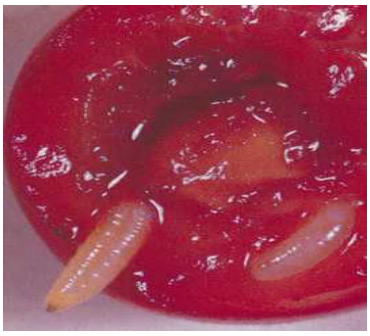
IDAHO STATE DEPARTMENT OF AGRICULTURE (ISDA)
DIVISION OF PLANT INDUSTRIES
BUREAU OF FEEDS AND PLANT SERVICES
2001 SURVEY, NURSERY AND FIELD INSPECTION SUMMARY

APPLE MAGGOT (AM) (Rhagoletis pomonella Walsh) - In 2001, 180 traps were placed at 145 sites in seven counties (Boise, Bonner, Canyon, Gem, Owyhee, Payette, and Washington) in and around the commercial apple production areas of each county. No positive detections were made at any sites trapped within the AM free zone area in 2001. This zone is established by rules (IDAPA 02.06.23) under authority of Title 22 Chapter 20, Idaho Code, Quarantines. Sixty-two adults were caught at a sentinel site on native hawthorn, in Boise County and one was trapped in Washington County on native hawthorn, both sites are outside of the apple maggot AM free zone. All identifications are made through genitalia dissections performed by University of Idaho taxonomists at the WFBARR Entomological Museum in Moscow, Idaho under the direction of Dr. James D. Johnson. A quality control program was implemented this year whereby fake flies were placed in traps by supervisory personnel with directions that the trap be replaced and taken to the program supervisor. All orchards and trap sites were plotted this year using Geographic Information System (GIS) and Global Positioning System (GPS) technology. The historical trapping density and placement criterion will be re-evaluated this winter. An historical summary can be found at http://www.agri.state.id.us/plants/feed.htm

***CEREAL LEAF BEETLE (CLB) (Oulema melanopus (Linnaeus))** – CLB was detected in Fremont and Clark counties for the first time in 2001. There were 75 sites surveyed in 15 counties. The larval parasite, Tetrastichus julis, was recovered from Twin Falls County in 2001. This is a new county record for the occurrence of Tetrastichus julis in Idaho. No recoveries of either larval or egg parasites were made from the other release sites in the state. Additional parasite releases were made in Boundary and Canyon counties. A field insectary for rearing CLB egg and larval parasites is being established in Kimberly, Idaho through cooperation with the University of Idaho and the Idaho State Department of Agriculture. A map showing Idaho counties positive for CLB is located on page 15.

WESTERN CHERRY FRUIT FLY (CFF) (Rhagoletis indifferens Curran) - In previous issues of this annual report, the Western Cherry Fruit Fly was improperly listed as Rhagoletis cingulata (cherry fruit fly) which does not occur in Idaho. The Idaho State Department of Agriculture implements a trapping program and tracks degree-day accumulation calculations for the western cherry fruit fly. The California Department of Food and Agriculture requires this for compliance with their Western Cherry Fruit Fly Quarantine for states wishing to export fresh sweet cherries to, or through, California. Fruit flies were caught at one site in Canyon County this year on May 24, 2000. A degree-day model is also used to supplement the trapping program. The dates that the 1060 degree-day accumulation was met or exceeded over the past few years is summarized in the table below. Written notification that fly emergence was eminent was sent to all growers through the Idaho Cherry Commission on May 15, 2001. No cherry fruit fly larvae were detected during inspection activities at any of the packing sheds this year. The degree-day calculations are made from the Oregon State University, Department of Entomology degree-day computer model. Control applications are recommended on, or



CFF Larvae in a pitted cherry

prior to, 1060 degree-day accumulations according to the publication, "Orchard Pest Management" as published by the Good Fruit Grower, Yakima, WA 1993.

Western Cherry Fruit Fly Degree-Day Accumulations 1998-2000 (1060 Degree Days)

CITY	2001	2000	1999	1998
PARMA	May 24	May 22	May 31	June 2
NAMPA	June 1	June 1	N/A	N/A
CALDWELL	June 3	May 31	May 28	June 3

EUROPEAN PINE SHOOT MOTH (EPSM) (Rhyacionia bouliana Denis & Schiffermuller) - In 2001, detection surveys were carried out only in areas of the state where this insect is not known to occur. Trap sites were selected at each inspector's discretion, based upon risk, accessibility and presence of suitable host material. There were 145 traps placed at 108 sites in 23 counties. Adult moth emergence can be expected around the first week of June. New positive sites were found in Bingham and Bonneville counties. This survey is performed to track EPSM's movement within the state for compliance with California and Nevada quarantines. Twenty-six nurseries were trapped for compliance with the California EPSM quarantine, 336 visual inspections of nurseries were made for the presence of EPSM, and three nurseries were required to take corrective actions to control EPSM-infested stock. The EPSM is a pest of most Pinus sp. In Idaho, it is most commonly found on Mugo pine in ornamental situations. A map showing Idaho counties positive for EPSM is located on page 16.

European pine shoot moth pictures used with permission. Copyright 1999. Jack DeAngelis, Oregon State University. All rights reserved.

***GYPSY MOTH (GM) (Lymantria dispar (Linnaeus))** - Detection Trapping - In 2001, the cooperating agencies in the Idaho gypsy moth detection program placed 5,346 detection traps throughout the state (Table 1). Table 2 shows trap placement by county. Pheromone-baited traps were placed on a grid basis at a density of four traps per square mile. Traps were placed throughout the state in cities, towns, surrounding urban areas and rural communities, in accordance with a predetermined rotation schedule. Cities and communities where 20 or more move-ins occur are trapped irrespective of their place in the schedule. A move-in is defined as an individual or family moving to Idaho from a state that is generally infested with gypsy moths. This information is derived from vehicle registration information supplied on a monthly basis by the Idaho Department of Transportation. Most infestations are initiated when an egg mass or other life stage of the gypsy moth arrives on an outdoor household article brought by someone moving into the area. Between May 2000 and April 2001, there were 4765 move-ins to the state, a 6.4% decrease over the previous year. Campgrounds, tourist attractions, and other high-risk locations were also trapped.

Two male gypsy moths were caught in detection traps in 2001. One trap was located west of Blanchard in Bonner County. A second moth was caught near Thornton in Madison County. We were unable to attribute either moth to a specific move-in; however, there are a large number of RVs in the area surrounding the Blanchard site. Delimitation traps will be placed around both sites in the 2002 trapping season.

Delimitation Trapping – No delimitation traps were placed in Idaho in 2001.

Mass Trapping – No mass trapping was done in Idaho in 2001.
Nursery Inspections – 364 nurseries were inspected for the presence of the Gypsy Moth.

Table 1 - Number of gypsy moth traps placed, by agency, in Idaho in 2001.

AGENCY	DETECTION TRAPS	DELIMITING TRAPS	MASS TRAPS	TOTAL TRAPS
Idaho Dept. of Lands	2995	0	0	2995
Idaho Dept. of Agriculture	1657	0	0	1657
USFS - Region 4	594	0	0	594
USFS - Region 1	100	0	0	100
TOTALS	5346	0	0	5346

Table 2 - 2001 trap placement by counties.

COUNTY NAME	NO.	DETECTION 4/MILE^2	DELIMITATION 36/MILE^2	MASS 9/ACRE	TOTAL TRAPS
Ada	1	411	0	0	411
Adams	2	40	0	0	40
Bannock	3	112	0	0	112
Bear Lake	4	20	0	0	20
Benewah	5	144	0	0	144
Bingham	6	46	0	0	46
Blaine	7	115	0	0	115
Boise	8	52	0	0	52
Bonner	9	909	0	0	909
Bonneville	10	110	0	0	110
Boundary	11	207	0	0	207
Butte	12	12	0	0	12
Camas	13	12	0	0	12
Canyon	14	222	0	0	222
Caribou	15	18	0	0	18
Cassia	16	35	0	0	35
Clark	17	6	0	0	6
Clearwater	18	162	0	0	162
Custer	19	27	0	0	27
Elmore	20	101	0	0	101
Franklin	21	20	0	0	20
Fremont	22	31	0	0	31
Gem	23	52	0	0	52
Gooding	24	28	0	0	28
Idaho	25	267	0	0	267
Jefferson	26	22	0	0	22
Jerome	27	13	0	0	13
Kootenai	28	1195	0	0	1195
Latah	29	64	0	0	64
Lemhi	30	32	0	0	32
Lewis	31	9	0	0	9
Lincoln	32	23	0	0	23
Madison	33	21	0	0	21
Minidoka	34	30	0	0	30

Nez Perce	35	88	0	0	88
Oneida	36	21	0	0	21
Owyhee	37	45	0	0	45
Payette	38	38	0	0	38
Power	39	17	0	0	17
Shoshone	40	70	0	0	70
Teton	41	8	0	0	8
Twin Falls	42	221	0	0	221
Valley	43	230	0	0	230
Washington	44	40	0	0	40
TOTALS		5346	0	0	5346

The Idaho Department of Lands administers this trapping program. A more detailed report and historical information may be obtained by contacting Ms. Gretchen Casey or Mr. Ladd Livingston, Idaho Department of Lands, 3780 Industrial Ave. South, Coeur d'Alene, Idaho 83815, or phone (208) 769-1525.

***GRASSHOPPER / MORMON CRICKETS –** This program is jointly administered by the Idaho State Department of Agriculture (ISDA) and the U.S. Department of Agriculture, Animal and Plant Health Inspection Service, Plant Protection and Quarantine Office (USDA). The USDA has responsibility on federal lands and the ISDA has responsibility for state and private lands. The ISDA is required to control grasshoppers and Mormon crickets under the Plant Pest Control and Research Commission Act, Section 22-2108, Title 22, Chapter 21, Idaho Code.

PLANNING - Two organizations, the Committee for Idaho's High Desert and the Idaho Watersheds Project, in addition to a private citizen, Dr. Tom Cade, filed suit against the Bureau of Land Management (BLM) and USDA in Federal Court on June 16, 2000, to block action by the federal agencies in the grasshopper program. The suit was settled late in 2000. Constraints placed on the program by this settlement limited federal treatment options to the extent that very little planning was necessary for treatments in 2001. USDA did not conduct public meetings and did not revise environmental documentation. The USDA bought a supply of 5 percent carbaryl grasshopper bait, the only treatment allowed under the settlement, and stockpiled it in Twin Falls. Fortunately, survey data from previous years did not indicate a trend toward increasing grasshopper populations. Because of the legal constraints, grasshopper population trends, and areas in which BLM had declared out of bounds for treatment in the Lower Snake River District, USDA cut back on survey staff and based the temporary survey staff in Twin Falls, Mountain Home and Weiser.

ADMINISTRATIVE – Both BLM funding and USDA contingency funding were available throughout the season. Therefore, lack of funding for the program did not cause a delay this year as had been the case in previous years. Funding for the Idaho State Department of Agriculture is under authorization of the State Board of Examiners, as required under the Plant Pest Control and Research Commission Act, Section 22-2108, Title 22, Chapter 21, Idaho Code.

SURVEY – In 2000, grasshopper and Mormon cricket population levels did not reach the magnitude anticipated by the public nor most authorities and there were not expectations for widespread, high grasshopper populations in 2001.

High grasshopper populations in Camas and Valley Counties in 2000 led to concern about the prospects in those locales for 2001. But private landowners had successfully treated substantial acreage with Malathion in Camas County in 2000, and this apparently reduced the 2001 population. However, extremely high populations of Camnula pellucida,

up to 5,000 per square yard, were present in Valley County hatching beds. Bands of nymphs, numbering into the hundreds per yard, created slick roads and public alarm.

Localized high densities of grasshoppers were observed at some locations in southern Idaho, but widespread infestations did not occur on public rangeland. Most grasshopper complaints came from areas where the insects were in the crops or on other private property, especially the corners of pivot irrigation fields. Investigation of some cases revealed that grasshoppers had hatched well out into the crop rather than in rangeland.

Mormon crickets were present in high numbers in rangeland in Elmore, Ada, and Valley Counties. Smaller populations were present in Madison County, associated with Conservation Reserve Program plantings.

Adult grasshopper surveys conducted in the Fall of 2001 resulted in estimates that 125,000 acres of Bureau of Land Management rangeland were infested at economic levels.

TREATMENTS – The U.S. Department of Agriculture treated 420 acres of federal rangeland in Cassia County. All treatments were with 5 percent carbaryl bait at a rate of 10 pounds/acre. Treatments were carried out near Raft River and Oakley. Treatments were applied by air with the skip-swath [Reduced Agent Area Treatments (RAATs)] method mandated by the court settlement mentioned above. In both cases the predominate species was Camnula pellucida.

The Idaho State Department of Agriculture purchased grasshopper bait for distribution to landowners. The ISDA, USDA and University of Idaho Cooperative Extension Service worked together to distribute the bait to farmers and ranchers in areas where there were heavy grasshopper infestations on private land or on public lands which did not qualify for treatment under the federal program. This cooperative program provided approximately 80,800 pounds of 5 percent carbaryl bait to 311 private landowners in 23 counties for application to their range, pasturelands or wastelands. The state provides the bait and application equipment, the landowner provides the labor to apply it. Bait application costs at the 10 pounds per acre rate ran from $7.00 to $8.00 per acre plus equipment and labor costs. About 51 percent of the total amount of bait distributed went to Valley County. In addition, private landowners in Valley County treated approximately 28,000 acres with Dimilin2L™, at 1 ounce of active ingredient per acre, using skip-swath technology (RAAT's). They achieved extremely good success with their cooperative program, which was not encumbered with the requirements placed on federal programs. Very few live grasshoppers were found at two weeks post-treatment. This Dimilin 2L™ application was made on a 50/50 cost-share between the private landowners and the state. The chemical and application cost averaged $2.60 per acre for the Valley County program. In early August an additional 2,300 acres was treated in Bingham County with malathion, at a rate of 8 ounces per acre, in an Ultra Low Volume treatment, at cost of $3.50 per acre. This treatment was made on a 50/50 cost-share basis with the landowner.

PREDICTIONS - The 2001 Fall surveys do not indicate a high likelihood of extensive grasshopper infestations in Idaho during 2002. Localized outbreaks at high density may be expected in areas that are traditionally subject to attack. Year 2002 rangeland grasshopper hazard maps for the Western U.S. and are on page 17 and 18.

Mormon crickets may pose a significant risk of appearing in high densities in Southwest Idaho. In most locales they would likely not pose a threat to crops, but could be a significant nuisance. On rangeland they would not be expected to diminish valuable forage, but could consume quantities of weeds. There are bands of Mormon crickets that could pose a problem by invading metropolitan Boise.

In 2002 and beyond, there may be need for grasshopper control to protect re-vegetation plantings on large acreages of public lands burned during the 2000 fire season.

The FY 2002 Agricultural Appropriation may result in some funds for Idaho. However, the grasshopper program will have to compete with other emerging plant pest programs for appropriated funds and with other emergency programs for contingency funds to support survey and control operations.

If future programs contain protective measures equal to those invoked in the court settlement mentioned above, or proposed in the 2000 Bureau of Land Management, which was the target of the lawsuit, the efficacy of grasshopper control will be significantly diminished, perhaps to the point of fruitlessness. If grasshopper programs are permitted to use bait as the only treatment option, the cost and logistical problems will mandate a triage approach that will allow only the most horrific infestations to be addressed.

The success of the plaintiffs with their 2000 lawsuit to stop grasshopper treatments with threats of temporary restraining orders, will only encourage them to continue their efforts to delay, diminish and destroy our ability to effectively protect crops from grasshoppers and Mormon crickets. The U. S. Department of Agriculture is concerned that it will prevent the continuation of the USDA grasshopper management program in Idaho. This may limit grasshopper control programs to those conducted by private or other non-federal entities.

USDA is preparing a new Environmental Impact Statement, which should reduce the likelihood that the U.S. Attorney's Office will be unable to defend our programs against lawsuits. Options suggested by the plaintiffs, and others with similar agendas, will continue to be proposed. These include compensating farmers for losses caused by grasshoppers and significant revision of grazing practices on public lands.

2001 BAIT COUNTY DELIVERY, DISTRIBUTION AND BALANCE TOTALS

COUNTY	COUNTY 2000 BALANCE	NUMBER OF DISTRIBUTIONS	AMOUNT DELIVERED	AMOUNT DISTRIBUTED	2001 BALANCE
ADAMS	2,050	3	0	150	1,900
BANNOCK	450	1	0	450	0
BEAR LAKE	400	1	0	100	300
BINGHAM	0	0	2,000	0	2,000
CAMAS	500	3	950	400	1,050
CASSIA	1,000	14	4,050	3,400	1,650
ELMORE	0	33	12,400	11,550	850
FREMONT	0	6	2,000	400	1,600
FRANKLIN	1,850	5	0	300	1,550
GOODING	850	1	0	100	750
JEROME	0	0	0	0	0
JEFFERSON	0	3	4,000	2,650	1,350
LINCOLN	11,000	58	4,500	12,500	3,000
MADISON	0	1	4,000	4,000	0
MINIDOKA	0	1	750	100	650
ONEIDA	2,000	0	0	600	1,400
OWHYEE	1,300	0	0	0	1,300
POWER	1,700	1	0	100	1,600
TWIN FALLS	0	0	0	0	0
VALLEY	4,100	160	36,450	39,600	950
WASHINGTON	2,450	16	650	1,700	1,400
ISDA STORAGE PRIVATE PICKUP- TWF		2		2,050	
PPQ BOISE-STORAGE PRIVATE PICKUP		2		650	
COUNTY TOTALS	29,650	311	71,750	80,800	23,300

This report was prepared by Mr. Dave McNeal and Mr. Rob McChesney, USDA-APHIS-PPQ, 9134 W. Blackeagle Drive, Boise, Idaho 83709, or phone (208) 378-5797. The state of Idaho information was provided by Michael E. Cooper, Idaho State Department of Agriculture, or phone (208) 332-8620.

JAPANESE BEETLE (Popillia japonica Newman) – 193 traps were placed at 193 sites in 41 counties and 336 visual inspections of nursery premises were performed. All traps and visual inspections were found negative. Japanese beetle quarantines are maintained and vigorously enforced by California, Idaho, Oregon, Utah and Washington. This beetle and its larval form are known to infest over 400 horticultural and ornamental plants, including sod. Establishment of the beetle in Idaho could seriously affect exports to the above-listed states and British Columbia. The beetle is known to infest most states east of the Mississippi River. Eastern Idaho is at increased risk for a possible Japanese beetle infestation, due to the amount of nursery stock from infested eastern states being allowed into the Jackson, Wyoming area. Wyoming maintains no Japanese beetle quarantine or surveillance program, so the likelihood of an infestation in the landscaped areas in and around Jackson could be very high.

***KARNAL BUNT (Tilletia indica) –** There were 41 samples processed from 17 counties and entered into the National Agricultural Pest Information System (NAPIS) system. All of the samples were collected and analyzed according to the 2001 National Karnal Bunt Monitoring Plan. All samples were negative for Karnal bunt. A complete listing of all survey samples taken are listed below:

COUNTY	POSITIVE	NEGATIVE	TOTAL
ADA	0	1	1
BENEWAH	0	2	2
BONNEVILLE	0	5	5
BUTTE	0	1	1
CARIBOU	0	2	2
CLARK	0	1	1
FRANKLIN	0	1	1
GEM	0	1	1
IDAHO	0	3	3
JEROME	0	3	3
LATAH	0	7	7
LEWIS	0	1	1
LINCOLN	0	1	1
MINIDOKA	0	5	5
ONEIDA	0	1	1
PAYETTE	0	1	1
TWIN FALLS	0	5	5
TOTAL		41	41

LEEK MOTH (Acrolepiopsis assctella) – The Leek moth is not known to occur in the continental U.S., but was found in Ontario, Canada in 2000 and has been in Hawaii for many years. The Leek moth is a recognized pest of onions and leeks in Europe and Japan. It was first recorded in Hawaii in 1939 on the island of Oahu. The larvae are highly specialized to feed on the leaves of various plants belonging to the genus Allium. The larvae prefer younger leaves (0-7 days), but will consume leaves up to two months old. The larvae tunnel in and chew perforations on young leaves which eventually become deformed older leaves. Occasionally, larvae may attack reproductive parts of the host plant but usually avoid the flowers. The flowers contain a saponin compound that inhibits the growth of the leek moth larva. Sixteen traps were placed at onion seed production fields in Canyon, Jerome and Twins Falls counties. All results were negative. A more intensive survey is planed for 2002 Further information on the biology of this pest can be found at the following Internet Websites:

http://www.inra.fr/Internet/Produits/HYPPZ/RAVAGEUR/6acrass.htm

http://www.extento.hawaii.edu/kbase/crop/Type/acrolepi.htm

***PLUM POX VIRUS (PPV) -** Idaho participated for a second year in a nationwide survey for the plum pox virus. Plum Pox is a viral disease that affects nearly all Prunus species causing symptoms such as misshapen fruit, ringspots on leaves and fruit, and decreased yield. It is spread by aphids and also by grafting. The possibility of spread by seed is still unclear.

The disease was discovered in the U.S. in 1999 on some peaches in a packing shed in Pennsylvania. The disease was also discovered in Canada in the summer of 2000. Immediately after the discovery of the disease in the U.S., the United States Department of Agriculture (USDA) began efforts to quarantine and eliminate it. Also the USDA initiated a national survey to ascertain the extent of the infection.

In the spring of 2000, Idaho participated in the nationwide plum pox survey. We surveyed 5 orchards, 27 nurseries and 4 private homes for a total of 800 samples. All samples from within Idaho were negative for the virus. Samples from all states that participated in the 2000 annual survey, except for Pennsylvania, were negative for the virus.

This year, we concentrated our survey efforts on established orchards to eliminate the possibility that any of the older trees were harboring the virus. We tested 775 samples from orchards in Canyon, Clearwater, Gem, Idaho, Lewis, Nez Perce, Payette and Twin Falls

counties. We also tested 11 samples from one nursery in Boundary County where ornamental Prunus species are propagated. All testing was done according the protocols established by USDA.

All samples consisted of 8 leaves chosen at random, and bulked. Leaves were ground and the extract was checked for the virus, using an antiserum specific for the virus. All samples from Idaho were negative for the virus. Again, all other states participating in the survey, except for Pennsylvania, had no signs of the virus.

The Pennsylvania Department of Agriculture is continuing their survey and eradication efforts. To date the total acreage lost to the plum pox virus stands at 884 acres. All positive samples have been from orchards. No positive samples have been recovered from homeowners or nurseries. From this evidence, scientists believe that the infection came to Pennsylvania on orchard stock and spread to a limited area via aphid transmission. Scientists are still unclear however, on the initial point of infection.

The results of the 2001 Canadian survey show positive samples from Ontario province only. No infections were found in Nova Scotia, British Columbia or Quebec. Eradication efforts are under way in Ontario, and movement of Prunus from quarantine zones is still prohibited. Canadian officials believe that they have traced the source of their infection to a nursery in Ontario.

REGULATORY INCIDENTS:

HONEY BEES – Eleven illegal apiary sites belonging to a California beekeeper were found in Teton County. These bees had been imported into the state in violation of the Idaho Bee Inspection Law, Title 22, Chapter 25, Idaho Code. They were un-registered and had no health certificate as is required. After several unsuccessful attempts to locate the owner, the bees were inspected and found to be infested with American foulbrood, a bacterial disease of honeybees. The 499 colonies were subsequently seized by the Idaho State Department of Agriculture; 176 colonies were ordered destroyed due to heavy American foulbrood infection. The disease confirmation was made by the USDA – ARS Bee Research Laboratory in Beltsville, Maryland. At least one of the samples submitted exhibited resistance to the antibiotic Terramycin, which is commonly used as a control measure.

DISEASES AND PESTS FOUND DURING 2001 FIELD INSPECTIONS FOR EXPORT CERTIFICATION

Weather conditions for the 2001 growing season were drier than in past years. This may have contributed to fewer diseases being observed during active-growth field inspections. Limited supplies of irrigation water late in the growing season may also have contributed to drier than normal field conditions resulting in less disease expression in the field.

Alfalfa seed: A total of 2,446.2 acres were submitted for inspection. Canadian Thistle (Cirsium arvense) was observed in 283 acres. No Alfalfa mosaic virus, Verticillium albo-atrum, Clavibacter michiganensis pv. insidiosus, Xanthomonas campestris pv. alfalfae, Ditylenchus dipsaci, Hieracium pilosella, Orobanche spp., or Striga spp. were found.

Barley: A total of 106 acres of barley were submitted for inspection. No Urocystis agropyri was detected. Thirteen acres were inspected and found free from Tilletia controversa. Six acres were inspected and found free from Tilletia caries, Ustilago nuda, and Barley stripe mosaic virus.

Beans, Dry: Bean common mosaic virus was observed in 8 of 3,585.18 acres submitted for inspection. Bean southern mosaic virus, Pea early browning virus, and Pea enation mosaic virus were not observed in any of the fields. No Halo blight, Common blight, Fuscus blight, Brown spot, Bacterial wilt or Anthracnose was observed in any field.

Beans, Garden: A total of 12,384.12 acres were submitted for inspection. Bean common mosaic virus, Bean southern mosaic virus, Pea early browning virus and Pea enation mosaic virus were not observed in any of the fields. No Halo blight, Common blight, Fuscus blight, Brown spot, Bacterial wilt or Anthracnose was observed in any fields. Several fields were also inspected for Elsinoe phaseoli, Phaeoisariopsis griseola, Tobacco ring spot virus and Tomato ring spot virus, with none of these diseases being detected.

Brassica spp.: Three fields totaling 34 acres were inspected and found apparently free from Alternaria brassicae, A. brassicola, Leptosphaeria maculans, Plasmodiophora brassica, Pseudomonas syringae pv. maculicola, Sclerotinia sclerotiorum, and Xanthomonas campestris pv. campestris.

Cantaloupe and Watermelon: Two trial grounds totaling 2.6 acres were inspected for Cucumber mosaic virus, Muskmelon mosaic virus, Squash mosaic virus, Watermelon mosaic virus, Xanthomonas campestris pv. cucurbitae, Pseudomonas syringae pv. lachrymans, Mycosphaerella melonis, Colletotrichum lagenarium, and Acidovorax avenae supsp. citrulli. None of the diseases listed were observed.

Carrot: All submitted fields (299.3 acres) were inspected for Alternaria dauci, A. radicina, Cercospora carotae, Erwinia carotovora, and Xanthomonas campestris pv. carotae. No diseases of quarantine significance were observed.

Corn: No Downy mildew diseases, Maize dwarf mosaic virus, Maize chlorotic mottle virus, Southern corn leaf blight, or Stewart's bacterial blight was observed in 6,078.05 acres submitted for inspection. A total of 74 acres were confirmed positive for High plains virus. A total of 36 acres were confirmed positive for Wheat streak mosaic virus. Insect damage was prevalent in many fields. Inspectors continued to observe symptoms similar to Eyespot (Kabatiella zeae) in a few fields, but the disease was never confirmed in any fields through laboratory analysis. Head smut and Common smut were observed in numerous fields, as has been the case in prior seasons.

Cucurbita spp.: Five fields totaling 26.85 acres, including trial plots, were inspected for several diseases including Cucumber mosaic virus, Muskmelon mosaic virus Squash mosaic virus, Watermelon mosaic virus, Pseudomonas syringae pv. lachrymans, Xanthomonas campestris pv. vesicatoria, Acidovorax avenae subsp. Citrulli, and X. campestris cucurbitae. None of the diseases listed were observed.

Garlic: Two fields totaling 5 acres were inspected and found free from any disease symptoms of quarantine significance, including Sclerotium cepivorum.

Hops: One group of fields totaling 600 acres was inspected for one grower and found free of Verticillium dahliae and Sphaerotheca macularis (S. humuli).

Lettuce: Thirty-Four fields totaling 182.75 acres were inspected and found apparently free from Lettuce mosaic virus.

Mint: Fourteen fields totaling 103.75 acres were inspected and found apparently free from Mint stem borer, and Verticillium dahliae. One of the fields, totaling 10 acres, was additionally inspected, and found positive for Meloidogyne hapla. One of the fields totaling, 10 acres, was additionally inspected, and found positive for Mint root borer.

Onion, Chive, Leek: One-hundred and six fields totaling 714.84 acres were inspected. All fields inspected were found free from Ditylenchus dipsaci, D. destructor, Alternaria porri, Urocystis magica, Colletotrichum circinans, and Onion yellow dwarf virus. Twenty acres were found infested with Botrytis alli. Several fields totaling 37.7 acres were found positive for Pink root (Pyrennocheta terrestris). No Onion white rot (Sclerotium cepivorum) was observed in any of the fields submitted for inspection.

Peas: A total of 4,854.92 acres (362 fields) were inspected during active growth. No Ascochyta pisi, Pea early browning virus, Pea enation mosaic virus, Pea seedborne mosaic virus, Fusarium oxysporum f.sp. pisi, or Xanthomonas campestris pv. phaseoli were observed in any of the fields.

Pepper: Three trial plots totaling 3.42 acres were inspected and found free from observable diseases of quarantine significance.

Potato: One field (175 acres) was inspected and found apparently free from Ditylenchus destructor, D. dipsaci, Globodera rostochiensis, Graphognathus leucoloma, Phthorimaea operculella, Phytophthora infestans, and Radopholus similis.

Radish: Fifteen fields totaling (168 acres) were inspected and found apparently free from Colletotrichum higginsianum, Xanthomonas campestris pv. campestris, and X. campestris pv. raphani. Seven of the fifteen fields were additionally

inspected and found apparently free from Alternaria brassicae, A. brassicola, Leptosphaeria maculans, and Xanthomonas campestris pv. vesicatoria.

Red Clover: A total of 330 acres in thirteen fields were submitted for inspection. Cirsium arvense was confirmed in 168 acres. Fields were also inspected for Alfalfa mosaic virus, Verticillium albo-atrum, Clavibacter michiganensis pv. insidiosus, Xanthomonas campestris pv. alfalfae, Ditylenchus dipsaci, Hieracium pilosella, Orobanche spp., and Striga spp. None of these diseases were observed during inspection.

Wheat: Three fields totaling 379 acres were inspected and found apparently free from Anguina tritici, Clavibacter iranicum, Claviceps purpurea, Pseudomonas atrofaciens, Sclerotium rolfsii, tilletia controversa, T. indica, Ustilago tritici, Xanthomonas translucens, and Barley stripe mosaic virus.

NUMBER OF FIELDS AND ACREAGE SUBMITTED FOR INSPECTION UNDER THE IDAHO RULES FOR PHYTOSANITARY AND POST-ENTRY CERTIFICATION AND RULES CONCERNING BACTERIAL DISEASES OF BEANS FOR THE 2001 FIELD SEASON

SPECIES	Number of Fields	SUBMITTED ACRES	INSPECTED ACRES
Alfalfa	123	2446.2	2446.2
Barley	5	106	106
Beans, Dry	220	3585.18	7875.06
Beans, Garden	871	12384.12	26394.34
Cabbage	0	0	0
Cantaloupe	1	.3	.3
Carrot	55	299.3	299.3
Chive	4	32	15
Corn	669	6078.05	10924.85
Corn, Area	50	1008	
Cucumber	1	.3	.3
Dill	1	6	6
Garlic	2	5	5
Leek	2	8	8
Lettuce	34	182.5	182.5
Mint	14	103.75	192.5
Onion	100	674.84	656.87
Peas	362	4854.92	9064.26
Peas, Area	124	6453.3	
Pepper, Bell	1	2.8	2.8
Pepper, Hot	2	0.62	0.62
Potato	1	175	175
Pumpkin	4	26.7	26.7
Radish	15	168	168
Red Clover	13	330	340
Squash	2	1.55	1.55
Turnip	0	0	0

Watermelon	2	1.3	1.3
Wheat	5	381	381
TOTALS	2712	40003.98	59966.70

The field disease report is complied by Curt Thornburg, Program Manager, Plant Industries, Boise, (208) 332-8620 and Garry West, Program Manager, Plant Industries, Twin Falls, or phone (208) 736-2195.

PLANT PATHOLOGY LAB SAMPLE SUMMARY 2001

The pathology lab received 1,132 samples this year and ran 3,286 tests on the samples. Our overall turnaround time was 20.42 days, although this number varied greatly among the different types of samples we received. See the table on page 14 for a complete listing of sample processed this year.

The plant pathology lab now has a PCR capability.

In the bean serology program, we received 413 samples for testing from 6 different states and 4 foreign countries. We found one lot of seed positive for Pseudomonas syringae pv. phaseolicola in Idaho illegally, and 2 from Canada. We also had 2 lots of bean seed from Canada that were positive for Colletotrichum lindemuthianum (bean anthracnose). We found Pseudomonas syringae pv. syringae in an infected lot from the Netherlands.

We ran several tests on various other seed products. We looked for Eschericia coli strain 0157 and Salmonella spp. in sprouting broccoli, alfalfa and radish. We also tested wheat, barley and alfalfa for the presence of various smut fungi, including finding Tilletia fusca on alfalfa, and T. controversa on barley. Several lots of alfalfa and one of red clover tested positive for bacterial wilt caused by Clavibacter michiganense pv. insidiosum.

The lab participated in the 2nd national survey for the Plum Pox virus (see the PPV section above). Idaho was free from the pathogen in both years. We also conducted our 5th year of the national Karnal Bunt survey (Tilletia indica) on wheat. As in all past years, Idaho is considered free from this pathogen, as well.

In the various samples received from our field inspectors, we isolated one fungus new to Idaho: Gloeocephalus hemerocallis, causing a leafspot on daylilly. Although this fungus was new to Idaho, it is believed to be widespread in the U.S., and of very little concern. We also found several fields of corn infected with either the High Plains virus, or Wheat streak mosaic virus, or both. This is of concern for our export market in Australia. We did conduct one grow out test in corn seed for Wheat streak mosaic virus, and found the sample was clean. And finally, we found a sample of squash positive for a Potyvirus, although we could not identify the virus to species. This is of concern since it is not the first time we have seen virus-infected cucurbits in Idaho, and we will pursue this further.

The Plant Pathology Laboratory Report was compiled by Ms. Liz Vavricka, principal microbiologist, Boise, ID, or phone (208) 332-8640.

EXPORT CERTIFICATION FOR THE 2001 CALENDAR YEAR

The ISDA issued 3,424 Federal and 2,892 State Phytosanitary Certificates for 73 different types of commodities to 95 countries. The department also certified 171,645,940 pounds of seed and other commodities for export. The Idaho

State Department of Agriculture operates this program under a Memorandum of Understanding with the U.S. Department of Agriculture.

NURSERY INSPECTIONS FOR COMPLIANCE WITH THE IDAHO NURSERY LAW TITLE 22, CHAPTER 23 IDAHO CODE

In 2001, there were 1,648 licensed nurseries, and of those 963 were inspected for compliance with the Idaho Nursery and Florists Law and for the presence of plant pests and noxious weeds. In addition, specific checks were made for compliance with various state laws, quarantines or pests of particular concern. The results are listed below:

Quarantine/Pests	No. Inspections	Incidents	Corrective Action	Stop Sales
Certified Seed Potatoes	140	7	7	6
Japanese Beetle	352			
Pine Shoot Beetle	312			
Noxious Weeds	601	28	17	
Aphids	735	28	14	
Onion White Rot	196	17	11	23
European Pine Shoot Moth	336	4	3	
Grape Quarantine	125			
Gypsy Moth	356			
Hops Quarantine	96			
Idaho Seed Law	375	3		5
European Corn Borer	234			
Mint Quarantine	183	4	4	2
Peach Tree Quarantine	111			
Red Imported Fire Ants	319			
Nematodes	4	2		
Late Blight	404			
General Pests	153	83	52	3
Retail Potatoes	131	7	4	
Day Lily Rust	32			
Crop Management Zone	117			
Total Inspections	5,312	183	112	39

This annual report and previous years reports, as well as pest distribution maps, laws, rules, press releases and various forms can be found on the ISDA World Wide Web Home Page at:

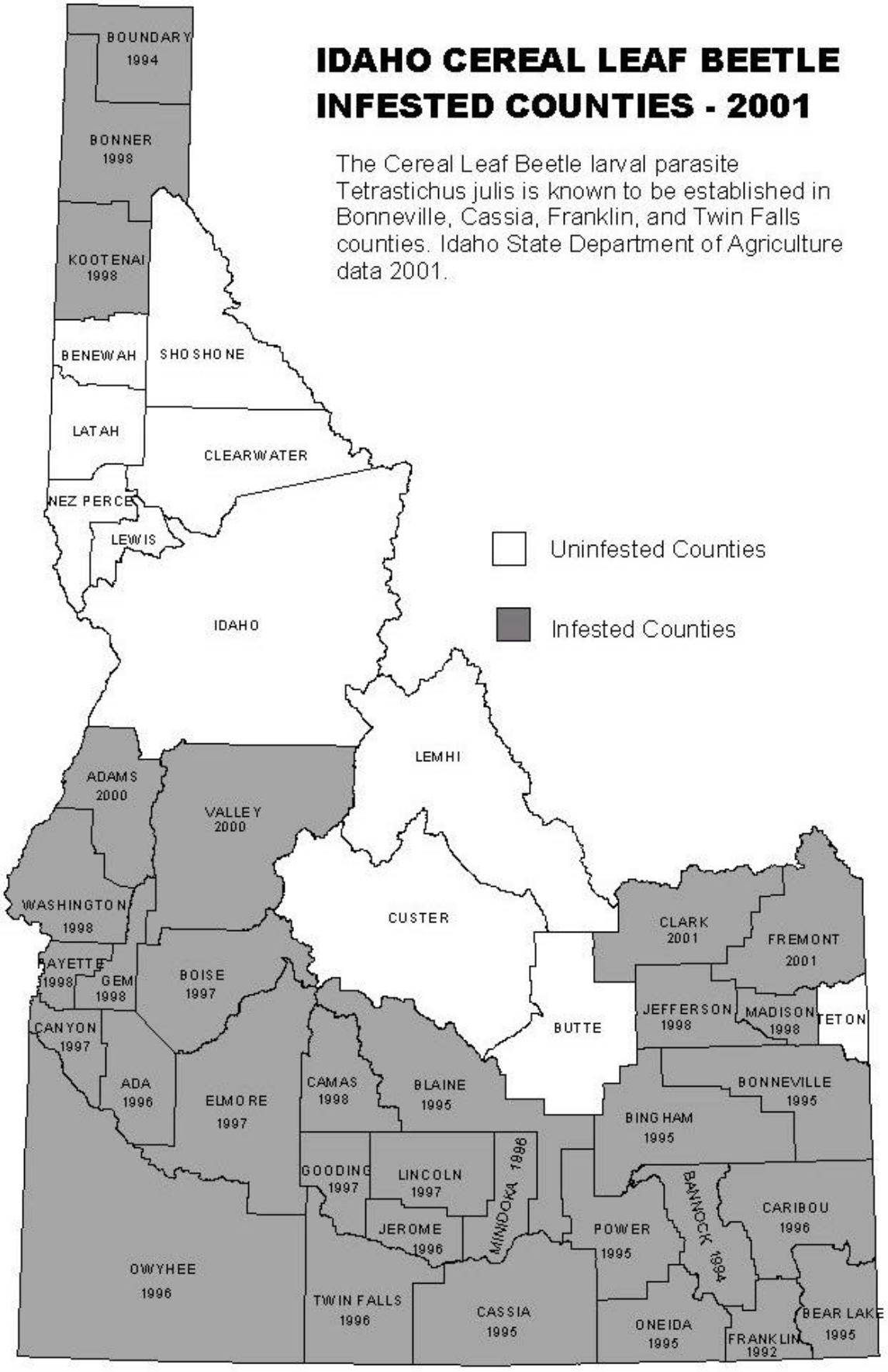
http://www.agri.state.id.us/plants/feed.htm

* - Indicates a program carried out under State/Federal funding. Those not marked with an asterisk were carried out under state funding only.

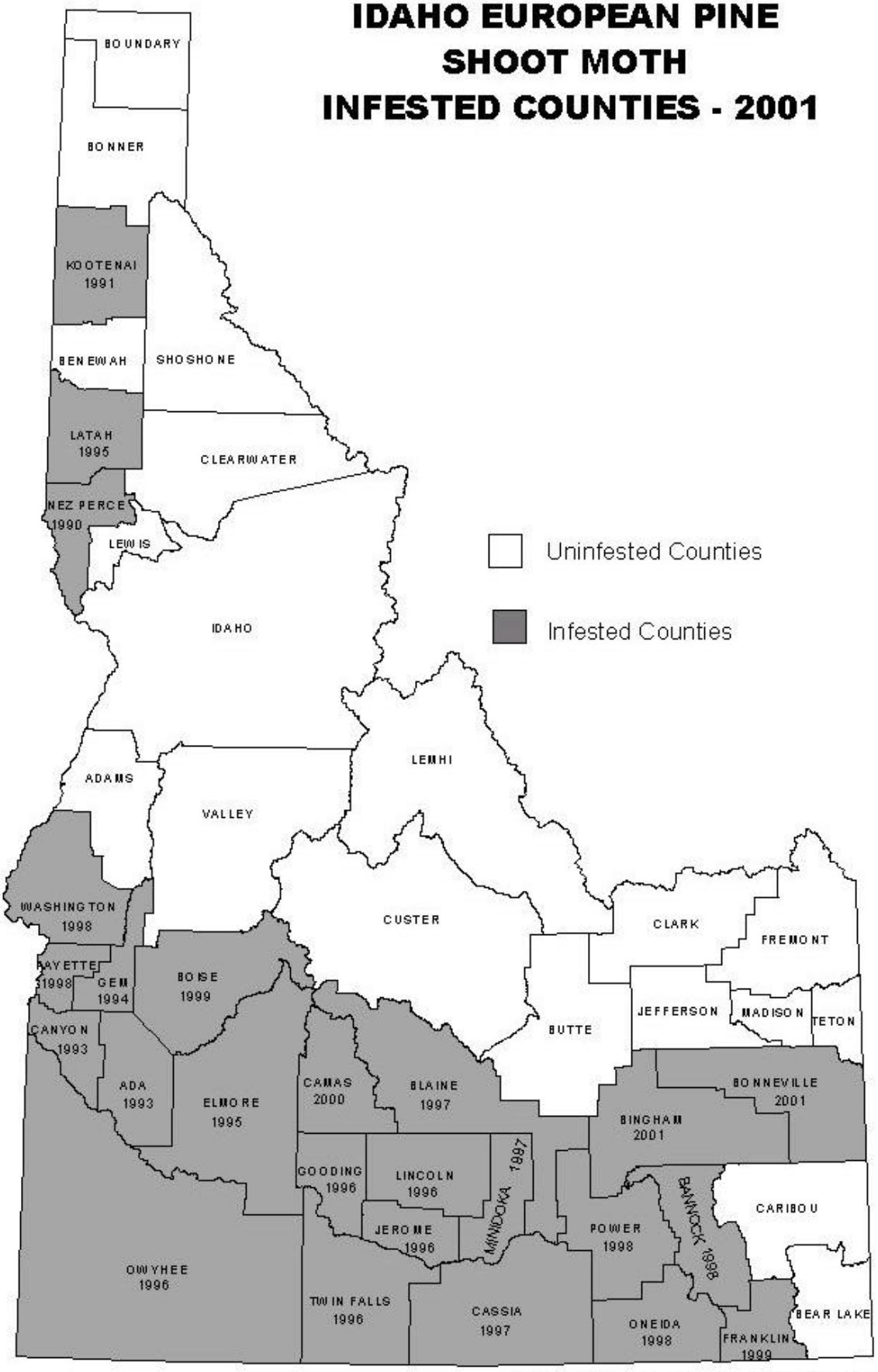
Prepared by: Michael E. Cooper, Chief, Bureau of Feeds and Plant Services, Division of Plant Industries, Idaho State Department of Agriculture, P.O. Box 790, Boise Idaho, 83701, Telephone: (208) 332-8620, Fax: (208) 334-2283, E-mail: **mcooper@agri.state.id.us**. January 2002

PATHOLOGY LABORATORY SAMPLE SUMMARY FOR THE YEAR 2001

CROP		# SAMPLES	# TESTS	POSITIVES (Organism)	TURNOVER TIME (DAYS/SAMPLE)
Bean					
	seed	413	2054	3 (*Pseudomonas syringae phaseolicola*)	24.18
				1 (*Pseudomonas syringae syringae*)	
				2 (*Colletotrichum lindemuthianum*)	
	field	52	77	3 (Bean Common Mosaic Virus)	
Misc Seed					
	alfalfa	40	65	2 (*Clavibacter michiganense insidosum*)	23.36
				2 (*Tilletia fusca*)	
				1 (*Phoma medicaginis*)	
	barley	6	8	2 (*Tilletia controversa*)	6.88
	brocolli	2	4		18.00
	chives	2	4		
	corn	1	1		30.00
	onion	1	2		16.00
	pea	2	2	0	16.00
	potato	1	1	2 % Potato Leaf Roll	8.00
	radish	5	9		18
	red clover	2	2	1 (*Clavibacter michiganense insidiosum)*	36.00
	wheat	12	17		19.9
	wheat straw	2	4		15.50
Potato Year Out		19	57		30.77
Plum Pox Survey		428	786	0	5.54
Wheat Survey		41	41		16.12
Misc Field					42.40
	african violet	1	0		
	alfalfa	3	5		
	carrot	4	6	2 (*Ulocladium* spp.)	
	corn	46	92	1 (both High Plains Virus and Wheat Streak Mosaic)	
				3 (Wheat Streak Mosaic only)	
				6 (High Plains Virus only)	
	daylilly	2	2	2 (*Gloeocephalus hemerocallis*)	
	dogwood	1	1		
	hollyhock	1	1	1 (*Puccinia malvacearum*)	
	lilac	1	1	1 (*Pseudomonas syringae*)	
	maple	1	1		
	mimulus	1	1		
	mint	5	5	3 (*Verticillium dahliae*)	
	mustard	1	1		
	onion	5	5		
	organic	3	3	1 (Beet Curly Top Virus)	
	pea	19	19		
	pear	1	1		
	peppers	1	0		
	philodendron	1	2		
	soil	1	1		
	squash	2	2	1 (Potyvirus)	
	strawberry	1	1		
	tomato	1	1		
	viburnum	1	1		
Total		1132	3286		20.42

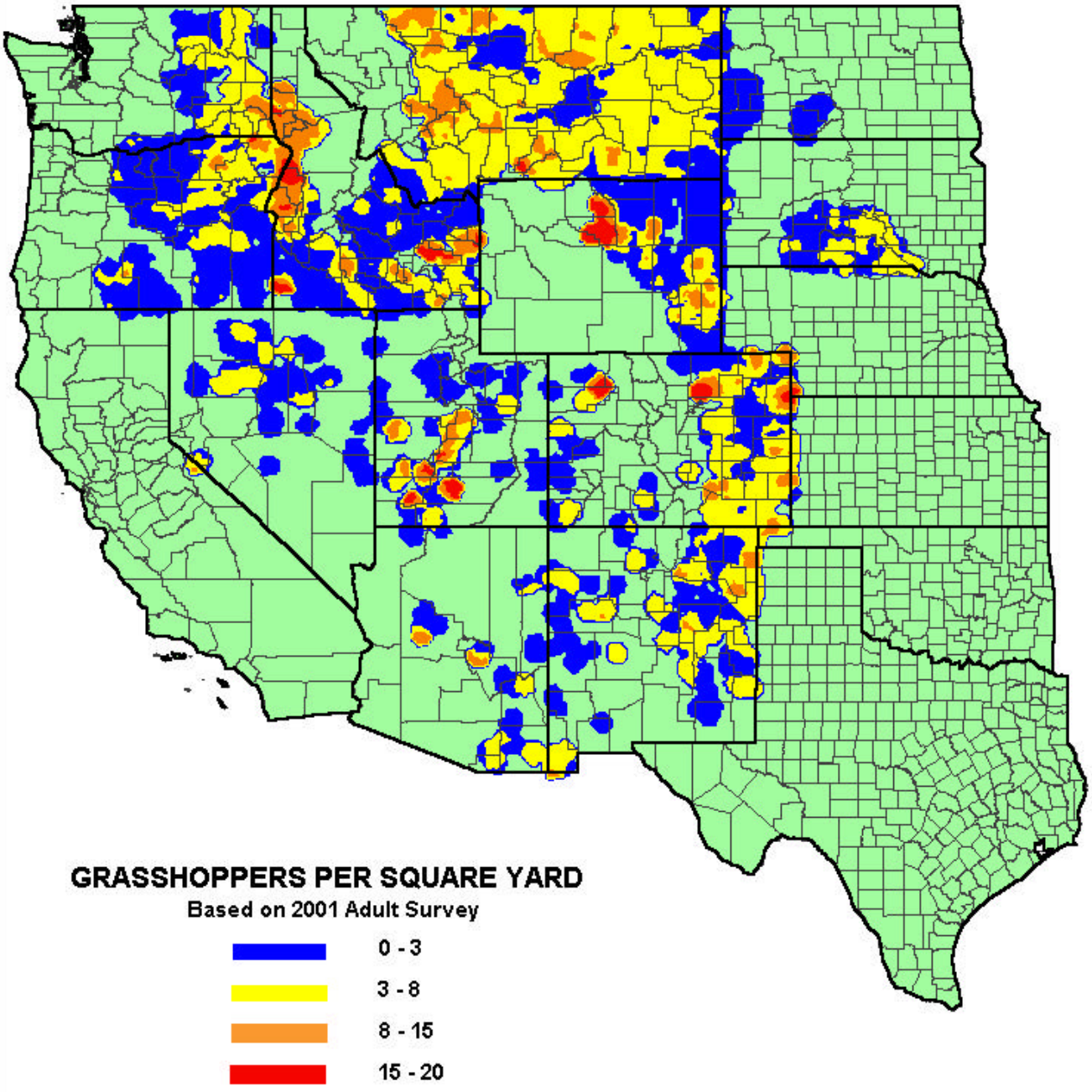

IDAHO CEREAL LEAF BEETLE
INFESTED COUNTIES - 2001
The Cereal Leaf Beetle larval parasite Tetrastichus julis is known to be established in Bonneville, Cassia, Franklin, and Twin Falls counties. Idaho State Department of Agriculture data 2001.
Uninfested Counties
Infested Counties
BOUNDARY 1994
BONNER 1998
KOOTENAI 1998
BENEWAH
SHOSHONE
LATAH
CLEARWATER
NEZ PERCE
LEWIS
IDAHO
LEMHI
ADAMS 2000
VALLEY 2000
WASHINGTON 1998
PAYETTE 1998
GEM 1998
BOISE 1997
CANYON 1997
ADA 1996
ELMORE 1997
CUSTER
BUTTE
CLARK 2001
FREMONT 2001
JEFFERSON 1998
MADISON 1998
TETON
BONNEVILLE 1995
BINGHAM 1995
CAMAS 1998
BLAINE 1995
GOODING 1997
LINCOLN 1997
JEROME 1996
MINIDOKA 1996
POWER 1995
BANNOCK 1994
CARIBOU 1996
OWYHEE 1996
TWIN FALLS 1996
CASSIA 1995
ONEIDA 1995
FRANKLIN 1992
BEAR LAKE 1995

IDAHO EUROPEAN PINE SHOOT MOTH INFESTED COUNTIES - 2001



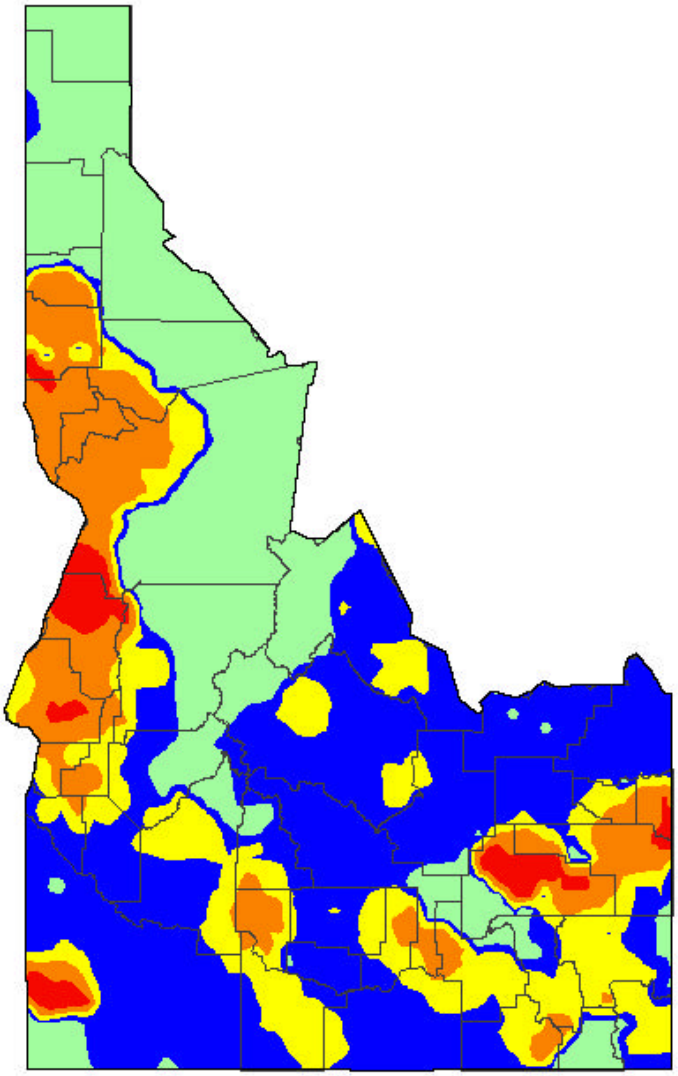
IDAHO STATE DEPARTMENT OF AGRICULTURE DATA 2001

2002 RANGELAND GRASSHOPPER HAZARD MAP



The data summarized in this map were furnished by the respective State, County, University and Federal Agencies using a variety of survey methods and analytical techniques. This map was prepared by USDA-APHIS-PPQ in cooperation with CPHST in Phoenix, AZ.

2002 RANGELAND GRASSHOPPER HAZARD MAP
IDAHO



GRASSHOPPERS PER SQUARE YARD

Based on 2001 Adult Survey

- 0 - 3
- 3 - 8
- 8 - 15
- 15 - 20

The data summarized in this map were furnished by the respective State, County, University and Federal Agencies using a variety of survey methods and analytical techniques. This map was prepared by USDA-APHIS-PPQ in cooperation with CPHST in Phoenix, AZ.